

WHAT IS CLAIMED IS:

1. An information recording and reproducing apparatus which irradiates an information recording medium with oscillated laser light to form a recorded region in a recording area on the information recording medium, said recorded region being physically different from the region where information has not been recorded, so that information can be recorded onto the information recording medium and reproduced or erased therefrom, said apparatus comprising:

means for detecting amplitude information from a reproduced signal;

means for converting the detected signal to a digital signal; and

means for calculating on the digital signal obtained;

wherein the recording power for information recording and reproducing is adapted by using the recording condition recorded on the recording medium as amplitude information and the change ratio of the amplitude to the recording power.

2. An information recording and reproducing apparatus according to Claim 1, wherein the recording condition is adapted for a linear recording velocity by:

reading from the recording medium the recording

condition recorded on the recording medium as amplitude information and the change ratio of the amplitude to the recording power;

calculating a recording condition appropriate for the linear recording velocity by using amplitude information associated with at least two linear recording velocities and the change ratio of the amplitude to the recording power; and

setting the recording power accordingly for information recording and reproducing at said linear recording velocity.

3. An information recording and reproducing apparatus according to Claim 1, wherein the recording condition is adapted by:

reading from the recording medium the recording condition recorded on the recording medium as amplitude information and the change ratio of the amplitude to the recording power;

before recording information, checking the change ratio of the amplitude to the recording power, which is specific to the information recording and reproducing apparatus concerned; and

adapting the recording power for information recording and reproducing by using the change ratio of the amplitude to the recording power, which is specific to the information recording and reproducing apparatus concerned.

4. An information recording and reproducing apparatus according to Claim 1, wherein the recording condition is adapted for a linear recording velocity by:

reading from the recording medium the recording condition recorded on the recording medium as amplitude information and the change ratio of the amplitude to the recording power;

before recording information, checking the change ratio of the amplitude to the recording power for at least two linear recording velocities, which is specific to the information recording and reproducing apparatus concerned;

calculating a recording condition appropriate for said linear recording velocity by using at least two change ratios of the amplitude to the recording power for the corresponding linear recording velocities, which are specific to the information recording and reproducing apparatus concerned; and

setting the recording power accordingly for information recording and reproducing at said linear recording velocity.

5. An information recording medium in which information can be recorded onto the information recording medium and reproduced or erased therefrom by irradiating the information recording medium with oscillated laser light to form a recorded region in a recording area on the information recording medium, said recorded region being

physically different from the region where information has not been recorded,
wherein:

a recording condition comprising at least a linear recording velocity, recording power and amplitude information is previously recorded; and

information about the change ratio of the amplitude to the recording power at said linear recording velocity is previously recorded.

6. An information recording medium in which information can be recorded onto the information recording medium and reproduced or erased therefrom by irradiating the information recording medium with oscillated laser light to form a recorded region in a recording area on the information recording medium, said recorded region being physically different from the region where information has not been recorded,
wherein:

a recording condition comprising at least plural linear recording velocities, plural recording powers and plural pieces of amplitude information is previously recorded; and

information about the change ratio of the amplitude to the recording power at each of plural linear recording velocities is previously recorded.

7. An information recording medium in which

information can be recorded onto the information recording medium and reproduced or erased therefrom by irradiating the information recording medium with oscillated laser light to form a recorded region in a recording area on the information recording medium, said recorded region being physically different from the region where information has not been recorded,

wherein:

a recording condition comprising at least plural linear recording velocities, plural recording powers and plural pieces of amplitude information is previously recorded; and

information about the change ratio of the amplitude to the recording power at a linear recording velocity in the recording-possible linear recording velocity range and information about the change ratio of the amplitude to the linear recording velocity in the recording-possible linear recording velocity range are previously recorded.